

Sears
KENMORE
INSTRUCTIONS

MODEL 1703 • ZIG • ZAG SEWING MACHINE



Sears, Roebuck and Co.

Dear Homemaker:

You have just invested in a very fine zigzag sewing machine. Before using your new Kenmore machine, please pause for a moment and carefully read this booklet which contains instructions on how to operate and care for your machine. Specific instructions are given on threading, tension adjustments, cleaning, oiling, etc. This will help you obtain the best sewing results and avoid unnecessary service expense for conditions beyond our control.

Advice on the operation and care of your machine is always available at your nearest Sears Retail Store. Should you have any further questions on your sewing machine, please write to me. When writing mention the complete Model Number shown on the nomenclature plate. You will find this plate identified on Page 2 of this booklet.

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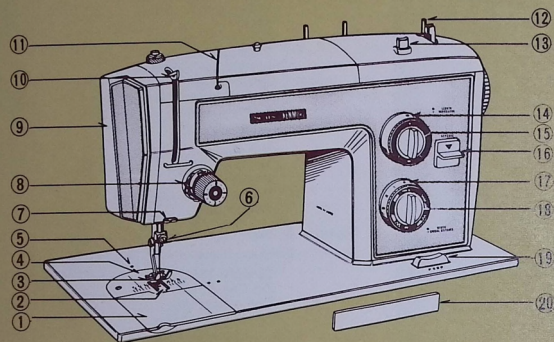
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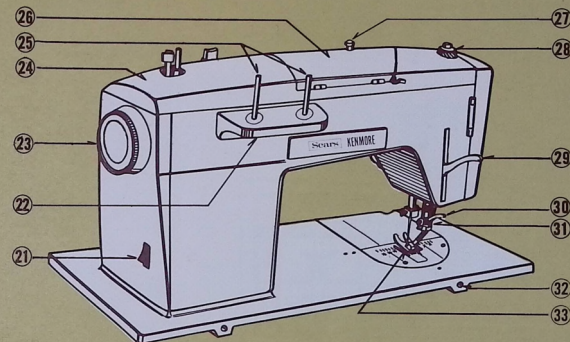
Knowing Your Sewing Machine

FRONT VIEW



1. Hand Hole Cover Plate
2. Multi Purpose Needle Plate
3. Presser Foot
4. Needle Plate
5. Buttonhole Attachment Guide Pin Hole
6. Needle Clamp Screw
7. Thread Guide
8. Top Thread Tension Control
9. Face Cover Plate
10. Take-up Lever
11. Threading Tube
12. Bobbin Winder
13. Bobbin Winder Reset Button
14. Stitch Length Control
15. Special Stitch Variator
16. Reverse Stitch Control
17. Stitch Width Control
18. Special Stitch Dial
19. Feed Dog Control
20. Nomenclature Plate

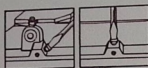
BACK VIEW



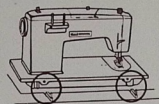
21. Light and Power Switch
22. Thread Spool Pin Base
23. Hand Wheel
24. Top Cover Plate
25. Spool Pins
26. Design Cam Cover
27. Bobbin Winder Tension Disc
28. Pressure Regulator
29. Presser Foot Lever
30. Presser Foot Lock
31. Thread Cutter
32. Hinge Hole
33. Feed Dogs

INSTALLING MACHINE

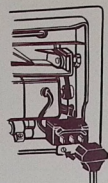
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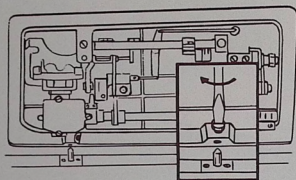
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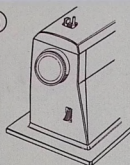
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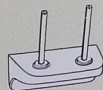
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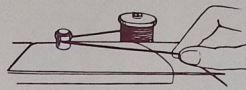
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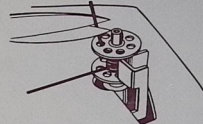
1. Loosen the two hinge screws under holes in the rear edge of the machine bed.
2. Raise hinge pins in the cabinet cutout. Slip machine head onto pins.
3. Tighten hinge screws securely.
4. Push the speed control plug onto three-prong connector under the bed plate. Lower machine head to front cabinet flap.
5. Plug machine cord into any 110-120 volt wall outlet. Turn on power by pushing light and power switch.
6. Spool pins are packed in accessory box. Screw thread spool pins in place. Position nylon discs as shown in illustration. Wipe machine of excess oil used in shipping.

WINDING THE BOBBIN

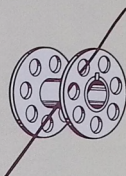
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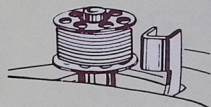
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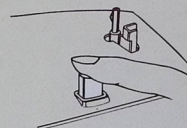
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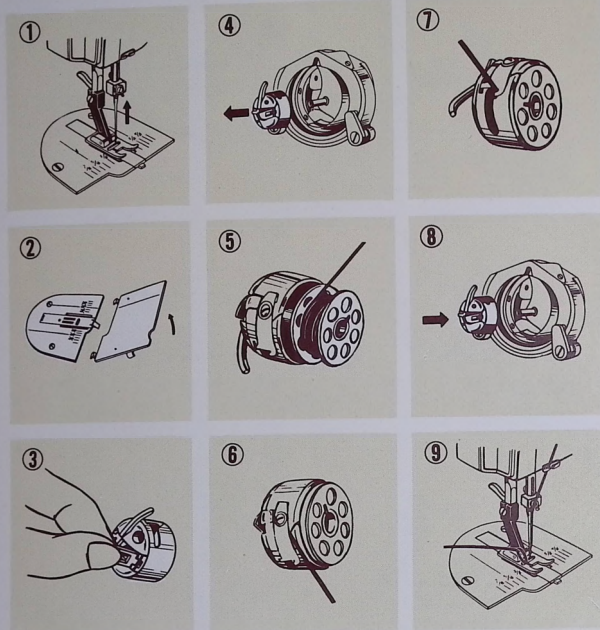


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1. Draw thread from spool through bobbin winder tension disc as shown in Fig. 1.
2. Pull end of thread through hole in bobbin as shown in Fig. 2.
3. Place bobbin onto bobbin winder shaft with end of thread coming from the top of the bobbin. Push bobbin winder latch against bobbin until it clicks.
4. Holding onto end of thread, start machine. When bobbin is slightly filled, snip off end of thread.
5. Start machine. Wind thread until bobbin winder latch releases. Remove bobbin.
6. Push down Bobbin Winder Reset Button.

THREADING THE BOBBIN CASE



1. Raise needle to its highest position by rotating hand wheel toward you.
2. Remove hand hole cover plate by lifting up front.
3. To remove bobbin case from shuttle, pull open latch of bobbin case.
4. Pull bobbin case straight out of shuttle.
5. Insert bobbin into bobbin case making sure thread is coming from bobbin as shown.
6. Pull thread through slot of case as shown.
7. Pull thread under tension spring.
8. Holding latch open, position case into shuttle, and release latch. Case should lock into place when latch is released.
9. Hold needle thread loosely in left hand and rotate hand wheel toward you one complete turn. Bring bobbin thread up by pulling upper thread.

THREADING OF TOP THREAD

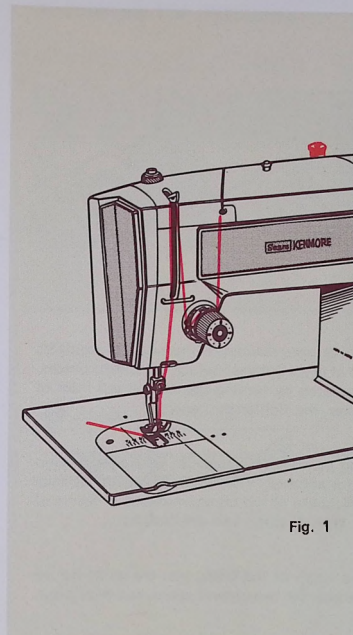


Fig. 1

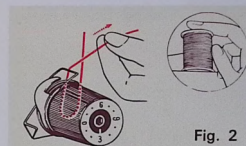


Fig. 2

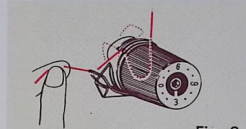


Fig. 3



Fig. 4

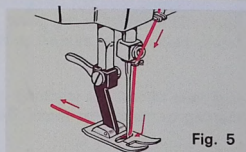


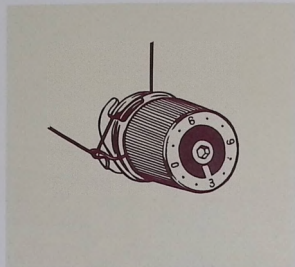
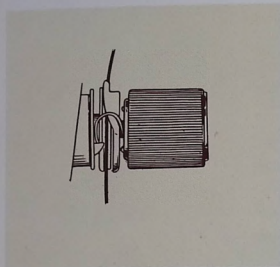
Fig. 5

Place thread on spool pin as shown with thread coming from back of the spool. Draw thread through the top threading tube. Holding the spool stationary with right hand, pull the end of the thread between the tension discs as shown. Pull the spring wire loop up and past the top hook until the thread can be slipped into hook (See Fig. 2).

When the thread is released, the spring wire loop will return to position (Fig. 3) with thread in proper place. Release spool of thread and hook thread into take up lever as shown (Fig. 4). Continue to thread machine exactly as shown. Needle must always be threaded in direction as shown in Fig. 5.

CONTROLS

TOP TENSION CONTROL

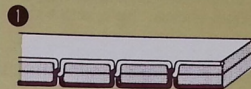


Probably the most important control on your machine is this one that regulates your top thread tension. It consists of discs between which the thread passes. The pressure on these discs is regulated by turning the dial on the front of the control. The higher the number, the tighter the tension.

There are many reasons for having to reset your tension. The best tension for one fabric may not be correct for another. The required tension depends upon the stiffness of the fabric, thickness of the fabric, numbers of layers of fabric being sewn, as well as the type of stitch you are making.

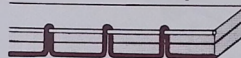
It is best to test the stitching on a scrap of the fabric you are using before starting to make a garment. To adjust for the correct stitch, see next page.

ADJUSTING TOP TENSIONS



A perfect straight stitch will have threads locked between the two layers of fabric with no loops on top or bottom.

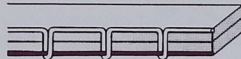
2 Upper thread too tight



Decrease Tension



3 Upper thread too loose



Increase Tension



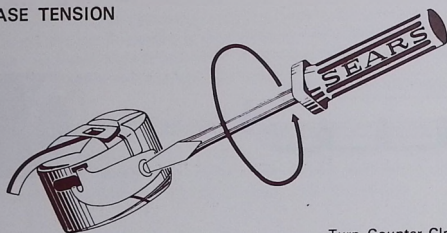
ADJUSTING BOBBIN TENSIONS

Bobbin tension requires adjusting less frequently than the upper thread tension.

If the stitch is satisfactory but the seam is puckered, it may be necessary to loosen the tension on both the top and bottom threads. Be sure to balance them as indicated on Page 9.

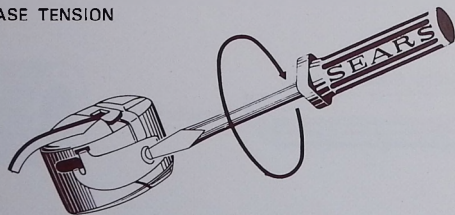
When adjusting the tension on the bobbin case, make slight adjustments with a screwdriver.

DECREASE TENSION



Turn Counter Clockwise.

INCREASE TENSION



Turn Clockwise.

CHECKING TENSIONS

To check the thread tension balance, be sure to use mercerized thread of the same size on the top and on the bobbin; and a sharp, correctly sized needle for the fabric you are sewing. Begin with a full bobbin. Set the stitch length for about 12 stitches per inch.

Fold a 6" square of fabric in half diagonally, forming a triangle. Make a line of stitching $1/2$ " in from the fold.

- If seam is puckered - both tensions are too tight.
- If the bottom thread lays on the fabric - tighten upper thread tension, and repeat test. See Fig. 3, Page 9.
- If the top thread lays on the fabric - loosen upper thread tension, and repeat test. See Fig. 2, Page 9.

Grasp the stitching and pull with a snap to make the threads break.

- If both threads break - tensions are balanced.
- If neither thread breaks - both tensions are too loose.
- If upper thread breaks - loosen top tension.
- If lower thread breaks - tighten top tension.

Both threads do not have to break at the same place, but they should break on the same snap.

It is necessary to reduce the upper thread tension somewhat when zigzag stitching. The wider the stitch, the less tension that is needed. This is particularly important when making designs. It is not desirable to have any of bottom thread visible on the right side of the fabric when making designs.

STITCH LENGTH CONTROL


The stitch length control regulates the length of the stitch you select. **THE HIGHER THE NUMBER - THE SHORTER THE STITCH.** Turn only the outer rim of this control to set the stitch length.

The number on stitch length control indicates stitch number per inch. The stitch setting you use will be determined by the thickness of the fabric you are sewing.

A longer stitch setting should be used for thicker fabric or more layers of fabric.

The middle range of the control is the 10-12 stitch per inch range which is the most commonly used.

A basting stitch is made by using the longest possible stitch setting - 6 stitches per inch.

The red marking  on the control is the setting used for the shortest stitches such as in Satin Stitching.

STITCH WIDTH CONTROL

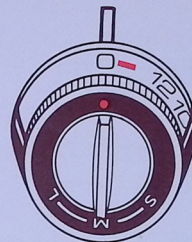
This control regulates the width of the stitch you select. **THE HIGHER THE NUMBER - THE WIDER THE STITCH.** You may vary your zigzag stitch width by adjusting this control to the setting you desire.

This control must be on Red Dot in order to do straight stitching.

Turn only the outer rim of this control to set the stitch width.

The center of the control dials the special stitches the machine is capable of sewing.

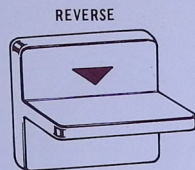
STITCH LENGTH CONTROL



STITCH WIDTH CONTROL



REVERSE STITCH CONTROL



SPECIAL STITCH VARIEGATOR



REVERSE STITCH CONTROL

It is best to begin and end seams with a few stitches taken in reverse. This is called back tacking. Back tacking fastens the ends of the seams firmly and prevents raveling.

When reverse stitching is needed, simply lower the lever and hold there during sewing. The fabric will immediately start feeding backwards and the seam will be fastened.

SPECIAL STITCH VARIEGATOR

This control determines the feed of the feed dogs. All simple forward stitches require that this control be set at red dot. These stitches are the straight stitch, zigzag mending, blind hem and basic decorative designs.

Those stitches requiring an automatic reverse feed of the feed dogs are the stretch stitches and the reverse decorative designs. Then the Stitch Variegator must be set on S, M, or L. See next section for specific settings for individual stitches.

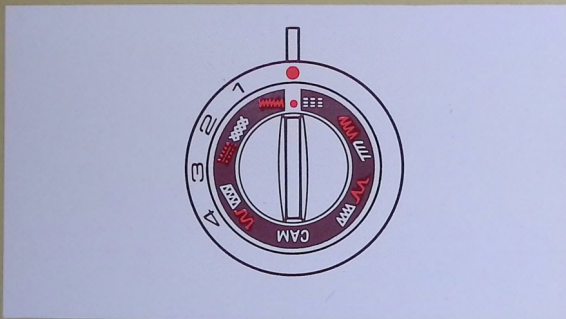
SPECIAL STITCH DIAL

There are certain types of stitches that are used more often than others in your garment construction. Because of their frequent use, you will soon realize the convenience offered to you by this control.

All stitches printed in red on the dial must be sewn with the Special Stitch Variegator set at the Red Dot.

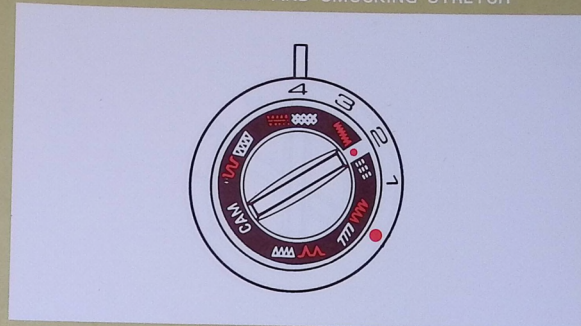
To make the stitches printed in white on this dial, the Special Stitch Variegator must be set at S.

THE RED DOT SETTING



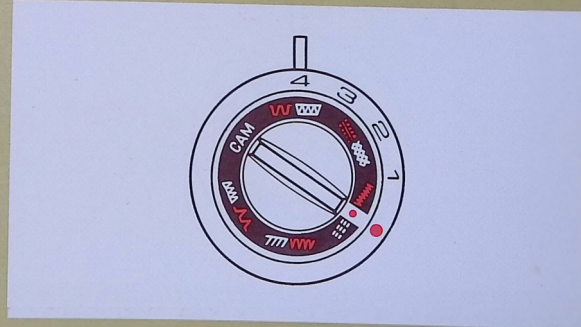
The red dot setting illustrated is the one used for most of your stitching. At this setting you may straight stitch, stretch stitch or make a simple zig zag stitch. As each stitch is dependent upon the settings of your other controls, carefully read the direction in the next section of the book for the various stitches.

SPECIAL MENDING STITCH AND SMOCKING STRETCH



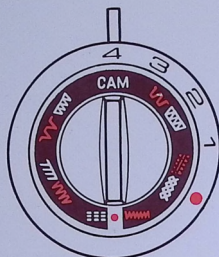
You will find that much of your sewing is in the mending category. For this reason you have been provided with a stitch for the repair of tears. It is accomplished with the illustrated setting and the Variegator set at the Red Dot. When the Variegator is turned to the White "S", a Smocking stitch results. For directions, see the next section of this book.

SPECIAL BOX STITCH AND ELASTIC STRETCH



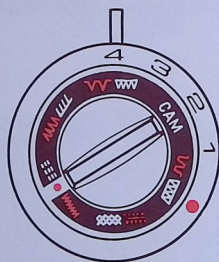
The setting illustrated is used for special edge finishing and special stretch stitch for sewing elastic such as sportswear, girdles and other garments that require stretch. See next section of this book for detailed use of the stitches.

CAM SETTING



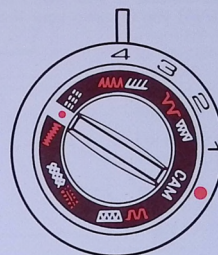
The CAM setting on the dial is used whenever you wish to use any of the 20 insert cams to make decorative embroidery patterns.

BLIND STITCH AND OVERCAST STRETCH STITCH



Blind hems are made by using the setting shown with the Stitch Variigator on the red dot. When the Variigator is set on the White "S", overcast stretch stitching is made with a forward and reverse action of the machine.

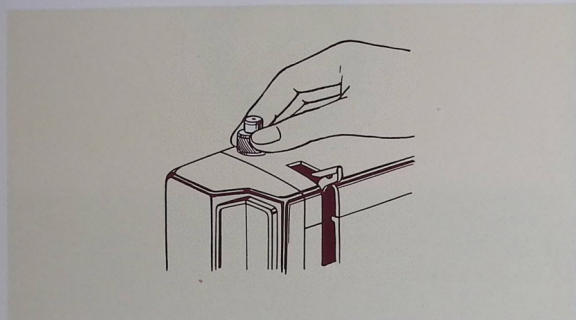
SERGING OR PINE LEAF STRETCH



This is a stitch that has been used in the garment industry for many years. It forms a good looking seam as well as overcasts the edges. It is imperative that this stitch is used for seaming of swimwear, stretch ski pants and other types of knit sportswear. Variigator must be set on the White "S".

OTHER ADJUSTMENTS OF MACHINE IN SEWING

In addition to the obvious controls of your machine, there are other small regulators and controls to aid you in using your sewing machine.



PRESSURE REGULATOR

Push down the outer ring of the pressure regulator. This will release the pressure on the presser foot. (See above). To increase the pressure, push down inner pin until a suitable pressure is obtained.

Insufficient pressure may cause poor feeding of the fabric, skipped stitches, or difficulty in guiding the fabric. If feed dogs or presser foot marks appear on the fabric, reduce the pressure.

When sewing multiple thickness or heavy fabric, reduce the pressure. Increase pressure when sewing lighter weight fabrics.

FEED DOG CONTROL

The feed dog control is located on the right front of the machine bedplate. There are a few times when you want to control the feeding of the fabric yourself. When the control is depressed on the right side, the feed dogs drop and do not move the fabric.

For most of your sewing, the feed dog control should be in a level position.

Whenever you raise or lower the feed dogs, be sure to have the presser foot in the up position.

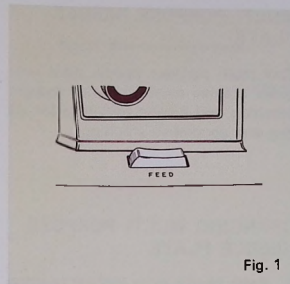


Fig. 1

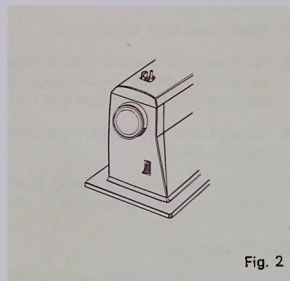


Fig. 2

SEWING LIGHT

The light and power switch shown in Fig. 2 provides the electric current for the motor as well as for the light. In order to operate the machine, this switch must be on. To turn on the light, depress the upper side of the switch. If you are interrupted while sewing and must leave the machine unattended, just turn off the switch and the machine cannot be started accidentally.

The sewing light is located inside the face cover plate as shown. To replace the bulb, turn light off and swing the face cover plate open. Push up the bulb slightly and turn bulb clockwise. Remove bulb from socket. Push in new bulb and turn counter-clockwise.

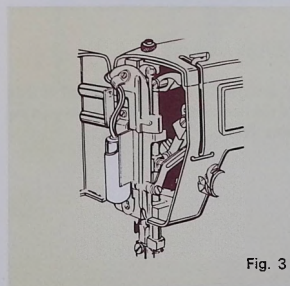


Fig. 3

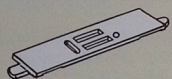


Fig. 1

MULTI PURPOSE NEEDLE PLATE

This multi purpose needle plate provides a small round hole for straight stitching and a wide oval hole for zig zag and decorative stitching.



Fig. 2

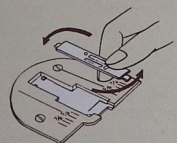


Fig. 3

CHANGING MULTI PURPOSE NEEDLE PLATE

1. Raise needle to its highest position and raise presser foot.
2. Open hand hole cover plate.
3. Remove multi purpose needle plate by placing thumb under edge of plate and lifting it up and out.
4. Reverse and reposition the needle plate as shown.
5. Lock it into place by fixing hand hole cover plate in position.

CAUTION

DO NOT BEND multi purpose needle plate when you reverse the plate.

SEAM GUIDES

Seam guides are printed on either side of the needle plate to aid you in guiding your fabric.

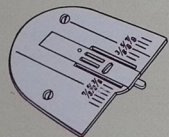


Fig. 4

ACCESSORIES

NEEDLES

Use **KENMORE** needles. The size of the needle should conform with the size of the thread and both should be suitable to the fabric (See next page).

Never use a bent needle or one with a blunt point.

Fig. 1. shows you the exact length of your needle. Be sure you never use one in your machine that is not this exact length.

You will find among your accessories "**Q NEEDLES**," with blue shanks. These are special needles to be used when sewing certain knits and certain difficult synthetic fabrics. If you experience skipped stitches in any of your sewing, use "**Q NEEDLE**."

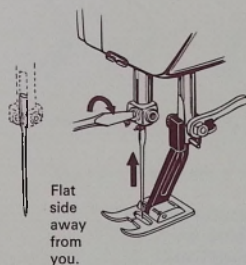
PLACEMENT OF NEEDLE

Raise needle bar to its highest position by turning the hand wheel toward you. Loosen the needle clamp screw. Holding the needle with the flat side away from you, slip the needle into the needle bar. When it is in as far as it will go, tighten the needle clamp screw with a screwdriver.

If you have a double needle for decorative stitching, it is inserted in the same manner as the single needle.



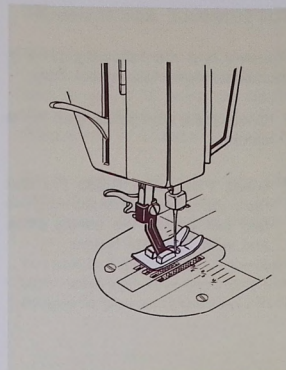
Fig. 1



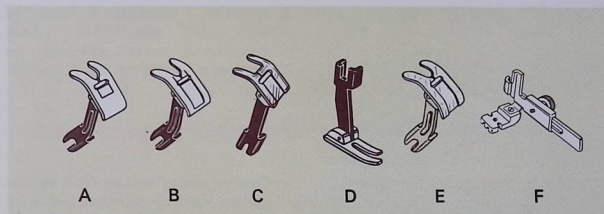
NEEDLE, THREAD, FABRIC CHART

THREAD SIZE	NEEDLE SIZE	FABRIC
Cotton 80-100 Synthetic Silk A	9	Chiffon, Fine Silks, Nylon Tricot, Power net.
Cotton 80-100 Synthetic Silk A	11	Batiste, Dimity, Organdy, Light weight Velvet and Taffeta, Fine Lace, Light weight Knits, Satin.
Cotton 60-80 Synthetic Mercerized 50-60	14	Cotton, Cotton Blends, Poplin, Percalé, Gingham, Shantung, Pique, Seersucker, Velveteen, Double Knits, Light weight Wool, Linen, Leather, Fake Furs, Vinyls.
Cotton 40-60 Mercerized 50 Mercerized Heavy Duty	16	Heavy Cotton such as Corduroy, Denim, Decorator Fabrics, Wool, Coating and Suiting.
Cotton 30-50 Mercerized Heavy Duty	18	Heavy Twills, Denims, Coatings.

PRESSER FEET



To replace any of the feet with ease, simply drop the presser foot lock and slip the foot away from the presser bar. To aid you in the placement of the presser foot, the presser foot lever can raise the foot beyond the normal "up" position. After the foot is placed on the presser bar, lift the lock as high as it will go to hold the foot securely.



You have been given a variety of presser feet:

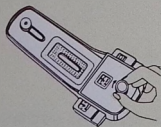
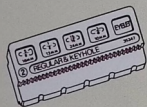
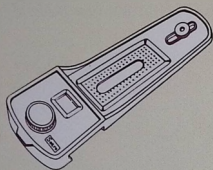
- A. Metal Zigzag Foot
- B. Metal Satin Stitch Foot for decorative stitching
- C. Clear Plastic Satin Stitch Foot
- D. Straight Stitch Foot
- E. "Q FOOT™"
- F. Plastic Zipper Foot

BUTTONHOLE ATTACHMENT

You will find the following parts in your Buttonhole Attachment Box:

1. Cover Plate with pinion gear in the center.
2. Guide Plate with Guide Pin that fits in guide pin hole on the machine bed just behind the needle plate, and with Template Holder.
3. A set of 2 templates is furnished with each attachment. Each template is marked showing the type and length of each buttonhole.
4. Desired size of buttonhole is selected by turning template advance knob. Length of buttonhole appears in window on top side of guide plate.

Details in using this attachment are given in the next section. Follow those directions carefully for perfectly formed buttonholes.

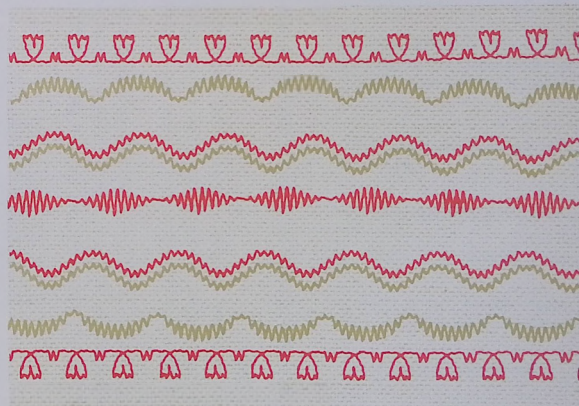


DESIGN CAMS

This machine enables you to sew beautiful decorative embroidery patterns by the use of the many cams supplied with your machine. All the designs may be varied by using the double needle and two different colors of thread as well as by changing the width of the zigzag stitch. Some of the designs can be changed by using the Special Stitch Variegator as well.

Please read the Special Design Stitching pages in the next section of the book. You will be told how to insert the cams and the machine settings to use to make the illustrated designs.

You will find many uses for the designs in combination with appliques, bias tapes, laces and other decorative trimmings. It is possible to combine several designs to give an interesting effect.

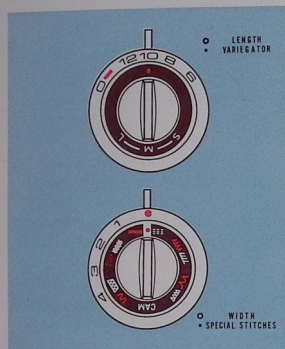


Starting to Sew

Now that you are familiar with the controls on your machine and with the accessories provided for the machine, you are ready to start to sew with your new Kenmore sewing machine. Below are some good habits to follow each time you sit down to sew:

1. Test the needle - it should be straight, properly set and sharp on the point. It should be the correct size for the fabric and thread being used. Do not be afraid to change your needle frequently. Many of the new fabrics made of synthetic blends tend to dull the needles more easily than fabrics made of natural fibers.
2. Test the machine stitch on a scrap of fabric you plan to use. The fabric should be double thickness. Adjust the machine for the length of stitch and tension suitable to your fabric.
3. Fabric should be placed under the presser foot with the bulk of the material to the left of the needle and the right edge of the material placed on the 5/8" seam marking on the needle plate when making a simple seam.
4. Run the machine at a slow even speed. The more pressure you put on the foot control, the faster the machine will sew.
5. Fasten each seam by back tacking at the beginning and end of the seam.
6. Always finish sewing each seam with the needle at its highest point.
7. Guide the fabric gently with your hand in front of the needle. Never pull or hold the fabric in such a way that the normal feeding is altered.
8. When turning the hand wheel manually, always turn it toward you.

GARMENT CONSTRUCTION STITCHES



STRAIGHT STITCHING

Set your machine just as shown in the illustration in order to straight stitch. It is important that each dial has the following settings.

SETTINGS

Special Stitch Dial - **www@###**
Stitch Length Control - 12 to 6
Stitch Width Control - Red Dot
Special Stitch Variator - Red Dot
Use straight stitch foot and straight stitch hole on multi purpose needle plate.

You will find in garment construction that you are doing two types of sewing - temporary and permanent.

1. Temporary stitching - Usually the longest stitch possible and often done on a single layer of fabric. The various types of temporary stitching are:

- Basting
- Stay stitching
- Guide line marking

2. Permanent stitching - This is the actual stitching that holds the garment together. Much of this stitching is visible on the outside of the garment and therefore must be good looking.

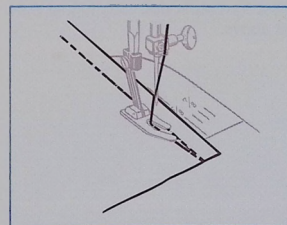
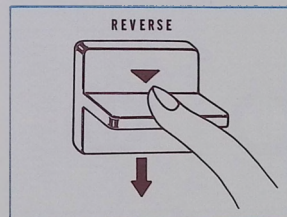
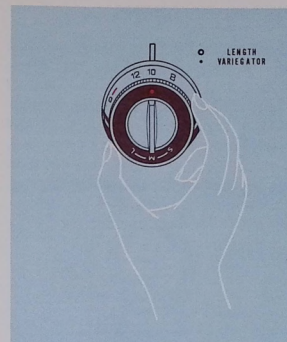
You must remember to lengthen the stitch for heavier fabrics, multiple layers of fabric and thicker seams. Some of these seams are:

- Common two layer seams
- Curved two layer seams
- Top stitched three layer seams
- Top stitched four layer seams

STITCH LENGTH CONTROL

The best length straight stitch to use for medium weight fabrics is 10 to 12 stitches per inch. To control stitch length, just turn your control dial as shown.

When you have two seams crossing each other with considerable thickness, sew slowly and carefully so seam will be strong as possible. It may be necessary to lengthen your stitch slightly and reduce the pressure on the presser foot if you are sewing very thick fabrics.



FASTENING A SEAM

Be sure both threads are drawn back under the presser foot. Lower needle into fabric about 1/2 inch from beginning of seam. Depress lever and stitch in reverse until needle reaches beginning of seam.

Release lever and complete seam. When you reach the end, depress lever and sew back over 1/2 inch of completed seam.

ZIGZAG STITCHING

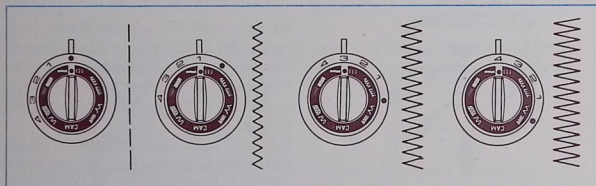
This type of stitching greatly expands the use of your machine. This is the feature that enables you to overcast seams, blind hem, applique, button-hole, monogram, and make all the pretty embroidery designs by machine. Simply use the settings indicated in the illustration for the simple zigzag. Follow directions given in the following pages for more specific uses.

SETTINGS

Special Stitch Dial - WWW @ ###
Stitch Length Control - Any number
Stitch Width Control - 1 to 4
Special Stitch Variegator - Red Dot

Use zig zag presser foot and zig zag hole on multi purpose needle plate.

ZIGZAG WIDTH CONTROL



In order to get Simple Zig Zag Stitches, just turn outer rim. The higher the number, the wider the stitch as illustrated above.

CHAIN STITCHING

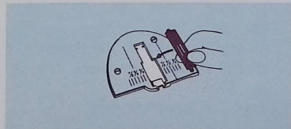
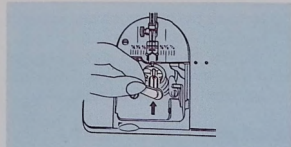
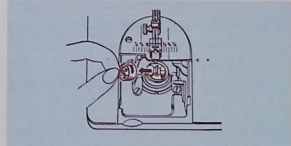
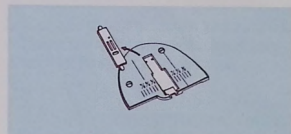
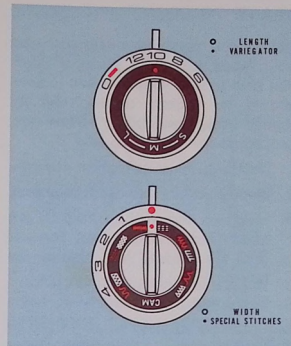
Your machine will make a special temporary type stitch - a chain stitch. The chain stitch is made by the upper thread only. The appearance of the stitch from the top of fabric is almost the same as regular straight stitch. Just pull on the thread end, you can remove thread easily.

SETTINGS

Special Stitch Dial - WWW @ ###
Stitch Length Control - around 10
Stitch Width Control - Red Dot
Special Stitch Variegator - Red Dot
Use straight stitch foot, chain stitch adapter and chain stitch needle plate.

ADJUSTING MACHINE FOR CHAIN STITCHING

1. Be sure the needle is at its highest position by turning handwheel.
2. Remove hand hole cover plate.
3. Remove multi purpose needle plate, bobbin and bobbin case from shuttle.
4. Insert chain stitch adapter onto the shuttle center pin. Be sure the adapter clicks into place when you fit it onto shuttle.
5. Place the black chain stitch plate onto the needle plate and replace hand hole cover plate.



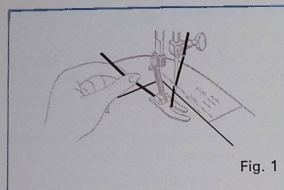


Fig. 1

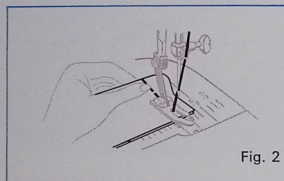


Fig. 2

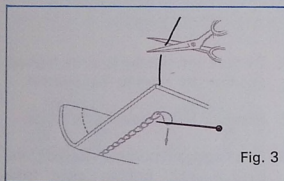


Fig. 3

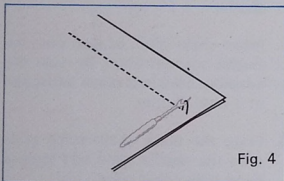


Fig. 4

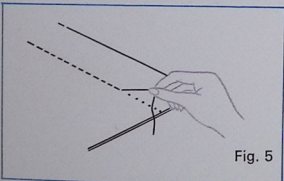


Fig. 5

START TO SEW

Before you sew with chain stitch on your fabric, test on a scrap of fabric you plan to use. Upper thread tension should be slightly tighter than for regular straight stitching. Follow next procedure for starting to sew.

1. Needle bar is at its highest position.
2. Place your fabric under presser foot.
3. Hold the end of the thread by left hand. Turn hand wheel forward until the needle just pierces the fabric. (Fig. 1)
4. Lower the presser foot.
5. Continue to turn hand wheel by right hand until a few stitches have been made.
6. Start the machine and stitch to end of seam, and stop the machine. Do not sew beyond the end of fabric.

REMOVING THE FABRIC FROM MACHINE

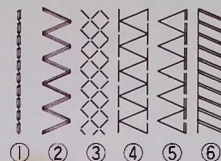
1. Hold end of stitch with left hand, and turn hand wheel away from you until the take up lever is at its highest position. At this point the last stitch is released by the adapter.
2. Remove your fabric gently with fingers holding end of stitching. (Fig. 2)
3. Holding the last stitch and material between your thumb and finger, cut the thread and pull thread to the underside. This will lock the last stitch. See illustration. (Fig. 3)

REMOVING THE THREAD

1. To remove the stitching quickly, the thread from last stitch must be on top. Simply pull the thread and all the stitching unravels. (Fig. 4, Fig. 5)

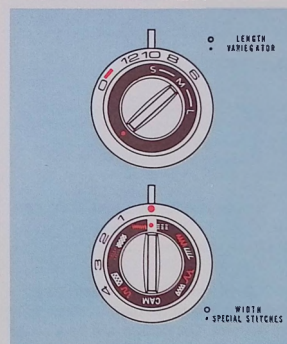
STRETCH STITCHING

The stitches shown below are all for use with stretch and knit fabrics. These are special stitches built in to the machine for your quick selection.



1. Straight Stretch
2. Rick-Rack Stretch
3. Smocking Stretch
4. Elastic Stretch
5. Overcast Stretch
6. Serging or Pine Leaf Stretch

For optimum sewing of stretch fabrics, use "Q FOOT™" with gold shank and "Q NEEDLE™" with blue shank.

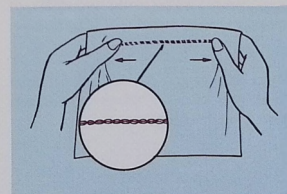


STRAIGHT STITCHING

SETTINGS

Special Stitch Dial - www.3000.com
Stitch Length Control - 12 to 10
Stitch Width Control - Red Dot
Special Stitch Variegator - White "S"
Use straight stitch presser foot and straight stitch hole on multi purpose needle plate.

This stitch enables you to press open your seams as with any straight stitched seam. The seam will stretch with fabric without breaking the thread.



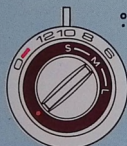
This is also a good stitch to use on curved seams that will receive a great deal of strain when worn, such as in children's shorts and slacks as well as adult sport clothes.



RICK-RACK STRETCH STITCHING

SETTINGS

Special Stitch Dial - **W**
Stitch Length Control - 12 to 10
Stitch Width Control - 1 to 4
Special Stitch Variegator - White "S"
Use "Q FOOT..." and zig zag hole on multi purpose needle plate.



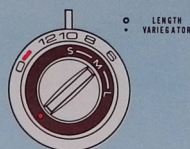
SMOCKING STRETCH

- Step 1. Make a straight line of gathers across the fabric that you wish to smock.
- Step 2. Settings
Special Stitch Dial - **W**
Stitch Length Control - 12 to 10
Stitch Width Control - 3 to 4
Special Stitch Variegator - White "S"

Use "Q FOOT..." and zig zag hole on multi purpose needle plate.

With a narrow strip of fabric directly under the line of gathering, stitch over the gathers. The design will be a series of small diamonds. Make the design more interesting by using two different colors of thread and the double needle.

When smocking a garment, the stitching should be done before the piece is sewn into the garment.

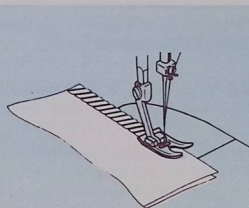
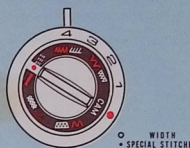


SERGING OR PINE LEAF STRETCH STITCHING

SETTINGS

Special Stitch Dial - **W**
Stitch Length Control - 12 to 10
Stitch Width Control - 4
Special Stitch Variegator - White "S"
Use "Q FOOT..." and zig zag hole on multi purpose needle plate.

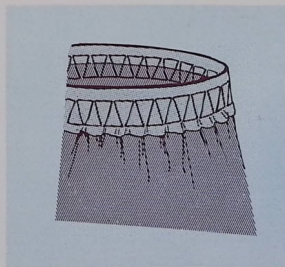
The serging or pine leaf stretch stitch is equally useful with woven and knitted fabrics. This stitch can be used in making elastic swimwear, as well as overcasting a neat edge on the seams.



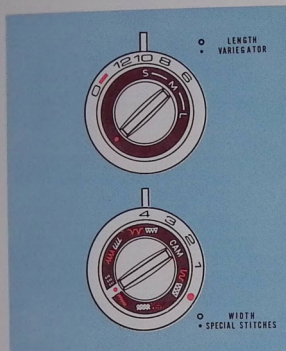
ELASTIC STRETCH STITCHING

SETTINGS

Special Stitch Dial - **W**
Stitch Length Control - 12 to 10
Stitch Width Control - 4
Special Stitch Variegator - White "S"
Use "Q FOOT..." and zig zag hole on multi purpose needle plate.



This is a good stitch to use in making or repairing lingerie. The stitch is decorative as well as useful. Simply stitch the elastic into place around the waist of the garment, making sure that the elastic is evenly spaced. To do this mark the correct length piece into quarters and match these markings with center front and back of the garment as well as side seams.



OVERCAST STRETCH STITCHING

SETTINGS

Special Stitch Dial - VV WW
Other settings are exactly same as Pine Leaf Stitching.

This is the same type of stitch used by the garment industry in making sportswear. It is used for seams of 3/8" to 1/4". The seam is formed and finished in one operation. It must be used when you are making swimwear, ski pants and other garments that require stretch.

Fig. 1 shows the raw edge finished.

Stitch so the needle pierces the fabric just short of the outside edge.

Raw or worn edges of older garments can be overcast to prevent further raveling.

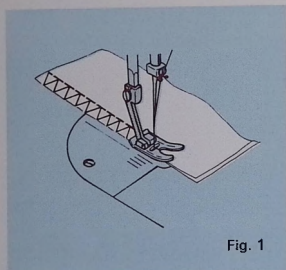
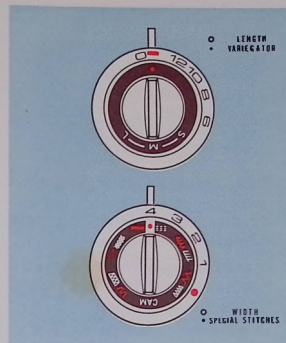


Fig. 1

SPECIAL FINISHING STITCHES



SATIN STITCHING

SETTINGS

Special Stitch Dial - WWW
Stitch Length Control - Red Zone
Stitch Width Control - Any Number 1 to 4
Special Stitch Variator - Red Dot

Use satin stitch foot and zig zag hole on multi purpose needle plate.

Closely spaced zigzag stitches are called satin stitches. This is an attractive stitch used for appliqueing, monogramming, buttonhole making. It is also the stitch that is used with the many decorative pattern cams for embroidery design work.

Whenever you are using this stitch, it is well to remember to loosen the tension of the top thread slightly. The wider the stitch you make, the looser the tension should be.

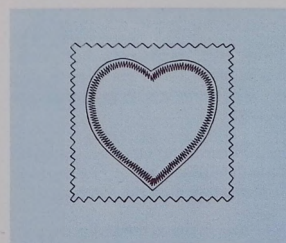
If you are stitching on a very soft fabric, it is well to use a backing of tissue paper or interfacing for a well formed stitch. Puckering of the material will be eliminated and the bobbin thread will not be visible on the right side of the fabric.

As with all special stitches, it is best to make a sample design on your fabric before starting the design on the garment.

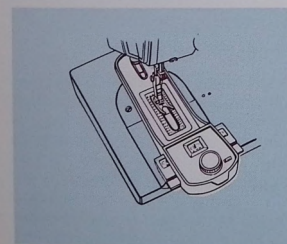
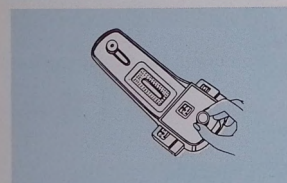
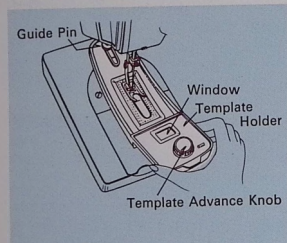
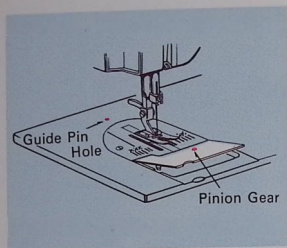
APPLIQUEING

SETTINGS

Same as with Satin Stitching



Select an applique design to be applied to your garment and baste it in place. Satin stitch around the raw edge of the applique completely covering the edge. You may want to do this with a contrasting color of thread or self color. By using one of the decorative cams, you may sew around the applique giving it an interesting appearance.



BUTTONHOLE MAKING

SETTINGS

Special Stitch Dial - VVWW

Stitch Width Control - 1 to 1 1/2

Feed Dogs - Down

Use satin stitch foot and zig zag hole on multi purpose needle plate.

1. Raise needle to its highest point and raise presser foot. Remove regular cover plate and replace with buttonhole cover plate.
2. Screw guide pin into the guide pin hole on the machine bed directly behind the needle plate.
3. Insert a template into the slot of template holder by lifting the bottom portion of the Template Holder. Select the proper size buttonhole by turning the Template Advance Knob.
4. Pull guide plate all the way forward so that guide pin is at S. This will enable you to start at one end of the buttonhole. Drop guide plate into place over gear on cover plate.
5. Pick up bobbin thread through guide plate by turning hand wheel and drawing thread to back. Place fabric between presser foot and guide plate. Lower presser foot and start sewing.

Always make a practice buttonhole on a scrap of fabric you plan to use. Try the buttonhole with the button you will use.

Use an interfacing between the layers of fabric - tissue paper can be used and torn away after the stitching.

For heavier weight fabrics, loosen your top tension slightly and use a wider stitch width setting.

BLIND HEMMING

SETTINGS

Special Stitch Dial - VVWW

Stitch Length Control - 10 to 10

Stitch Width Control - 2 to 3

Special Stitch Variator - Red Dot

Use zig zag foot or edgestitcher and zig zag hole on multi purpose needle plate.

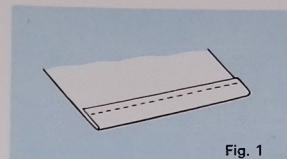


Fig. 1

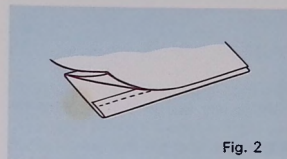


Fig. 2

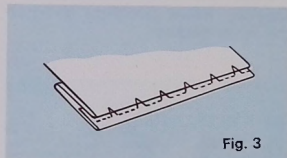


Fig. 3

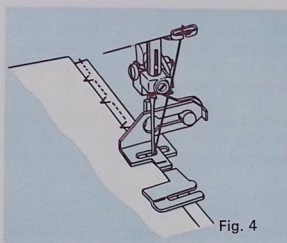


Fig. 4

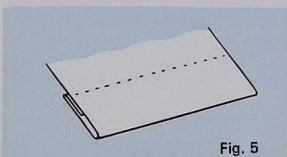


Fig. 5

After you have turned up the hem width desired, turn raw edge over 1/2" and stitch this fold with a basting stitch. (Fig. 1). Press.

Fold hem back against right side of garment with basted raw edge extending about 1/8" to right of garment fold. (Fig. 2)

Place garment under presser foot so that straight stitches will follow basting or raw edge, and the blind (zigzag) stitch just catches the fold of the hem. (Fig. 3)


Or

If you have an edgestitcher, place the fold of the hem in the two left slots of the attachment for ease in guiding your sewing. (Fig. 4)

Remove basting and press hem. Right side of garment will show only the blind stitches as in Fig. 5.

ZIPPER APPLICATION

SETTINGS

Special Stitch Dial - 
Stitch Length Control - 12 to 10
Stitch Width Control - Red Dot
Special Stitch Variegator - Red Dot
Use zipper foot and straight stitch hole on multi purpose needle plate.

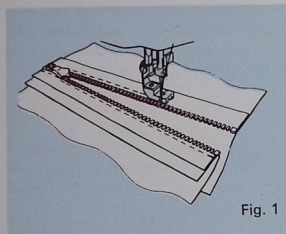


Fig. 1

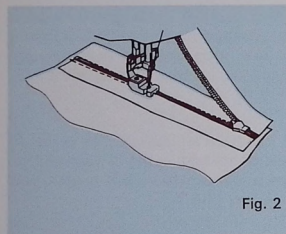


Fig. 2

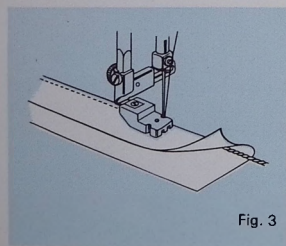


Fig. 3

REGULAR ZIPPER

The foot is adjustable for use on the right or left side of the needle when sewing the regular type of zipper. Adjust the foot so the needle clears the side notch on the foot. See Fig. 1. Carefully follow directions given on the zipper package.

INVISIBLE ZIPPER

Adjust the foot so the needle is sewing through the center hole of the foot and one groove of the foot is riding on the teeth of the zipper. See Fig. 2. Follow the zipper manufacturer's instructions.


After zipper has been inserted, finish sewing seam by shifting foot to side position sewing through side notch.

CORDING

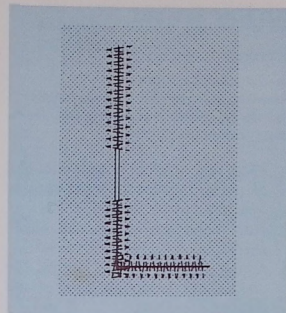
Foot can also be used to make cording for slipcovers etc. Cover a cord with a strip of bias fabric and sew as shown in Fig. 3.

MENDING

SETTINGS

Special Stitch Dial - 
Stitch Length Control - Red Zone
Stitch Width Control - 4
Special Stitch Variegator - Red Dot


Use zig zag foot and zig zag hole on multi purpose needle plate.

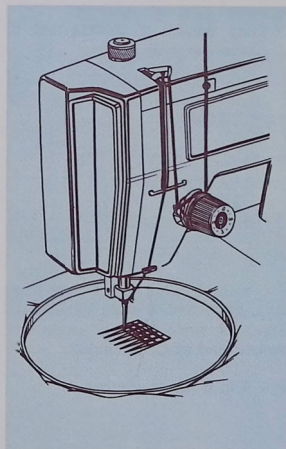


To repair a straight or three-cornered tear, position the tear under the needle in such a way that the stitching catches both sides of the tear. When mending a three-cornered tear, stitch from each end to the center. It is well to use a piece of fabric under the tear for reinforcement.

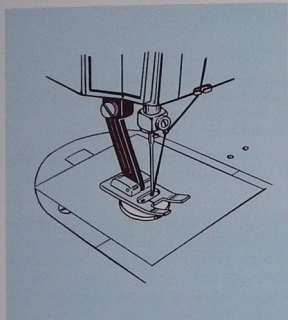
DARNING

SETTINGS

Special Stitch Dial - 
Stitch Width Control - Red Dot
Special Stitch Variegator - Red Dot
Feed Dogs - Down
No Presser Foot



Remove presser foot, stretch fabric between embroidery hoops with hole centered. Draw the bobbin thread up through the fabric by holding the top thread and taking one stitch at the spot where you wish to start darning. Lowering the presser bar, start darning at a slow to medium speed. Move the fabric back and forth with a steady rhythm to cover the darning area. When it is covered, turn the fabric and sew another layer of stitching across the first layer of stitching.



BUTTON SEWING

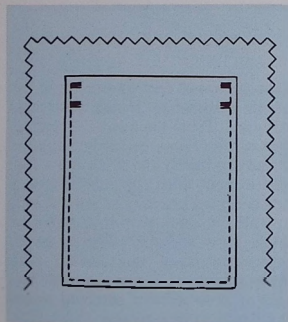
SETTINGS

Special Stitch Dial - III

Feed Dogs - Down

Use zig zag presser foot and zig zag hole on multi purpose needle plate.

1. Align two holes of button with slot of presser foot and lower foot to hold the button securely.
2. Turn hand wheel manually until needle point is just above button.
3. Adjust stitch width control so needle will enter left hole of the button.
4. Turn hand wheel again by hand so needle enters second hole. Re-adjust stitch width if necessary. Stitch a number of times.
5. Finish sewing with an extra two inches of thread remaining. Draw these threads to reverse side of garment and tie.



BAR TACKING

SETTINGS

Special Stitch Dial - III

Stitch Width Control - 2 to 4

Stitch Length Control - Red Zone

Use zig zag presser foot and zig zag hole on multi purpose needle plate.

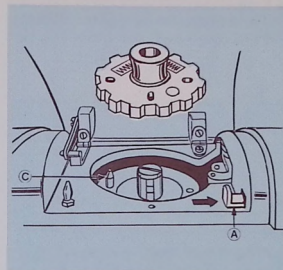
This stitch is similar to a very short satin stitch and is used to reinforce points of strain such as corners of pockets and straps on lingerie.

Sew 4 to 6 zigzag stitches.

SPECIAL DESIGN STITCHING

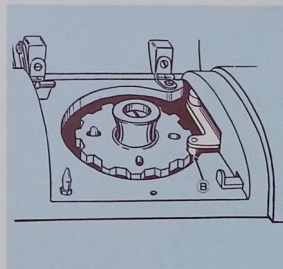
This model sewing machine enables you to sew a variety of decorative embroidery stitches just by the insertion of the different cams supplied with your machine.

First you will want to know how to insert the cams:



1. Turn handwheel so needle is at its highest position.
2. Lift cam shaft cover open.
3. Grasp cam and slip cam onto the shaft as you push lever A to the right.

Make sure the retaining pin C enters the hole in the cam and the cam is seated as far down as it will go.



To start a pattern at its beginning, align the engraved dot on the cam with the follower B. To do this slip the cam onto the shaft so the engraved dot is as near the cam follower as possible. If the dot is not aligned with the follower, turn the hand wheel toward you until the dot is aligned. (If the machine is threaded, be sure to place a scrap of fabric under the presser foot).

4. To remove the pattern cam, follow steps 1 and 2, grasp the cam and pull from the shaft while holding lever A to the right.

SINGLE NEEDLE DESIGNS

SETTINGS

Special Stitch Dial - CAM
Stitch Width Control - 1 to 4
Stitch Length Control - Red Zone
Special Stitch Variegator - Red Dot
Use satin stitch foot and zig zag hole on
multi purpose needle plate.

All the designs can be varied by adjusting the stitch width or by using a double needle. See the illustrations for interesting and attractive uses of the designs. You will soon be combining designs and creating new uses when you become familiar with your machine.

Fig. 1 Design on a collar

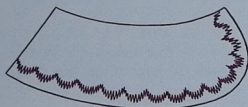


Fig. 2 Design on bias tape

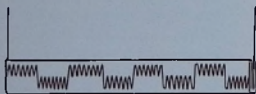


Fig. 3 Variation of widths of designs

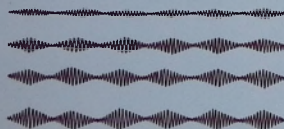


Fig. 4 Combination of designs

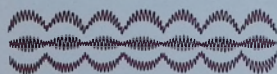


Fig. 5

Design on narrow hem

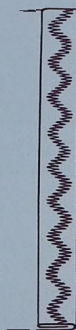
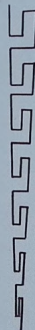


Fig. 6

Variation of width of reverse stitch design

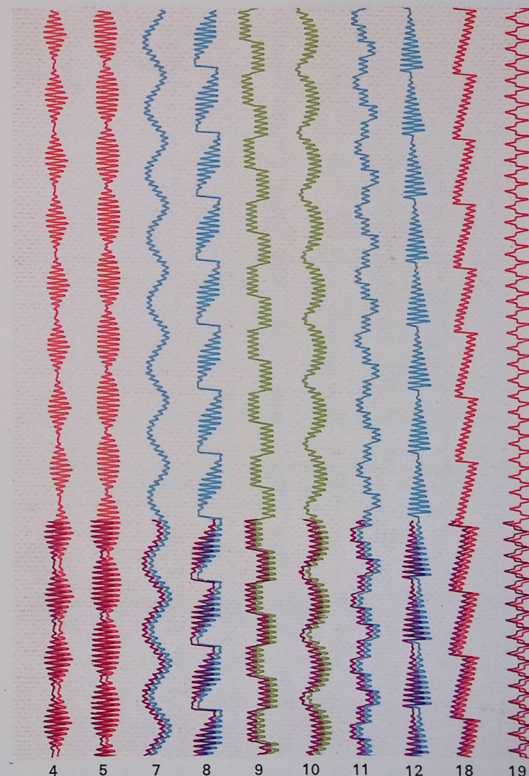


BASIC DECORATIVE DESIGNS

SETTINGS

Special Stitch Dial - CAM
Stitch Length Control - Red Zone
Stitch Width Control - 1 to 4

Special Stitch Variegator - Red Dot
Use satin stitch foot and zig zag hole on
multi purpose needle plate.



REVERSE STITCH DESIGNS

SETTINGS

Special Stitch Dial - CAM
Stitch Width Control - 1 to 4
Stitch Length Control - 6

Special Stitch Variator - White M
Use satin stitch foot and zig zag hole on
multi purpose needle plate.

In addition to the basic designs on the previous page, you can sew the interesting reverse stitch designs shown below. Page 14 and the next page show the variations of the same designs.



REVERSE STITCH DESIGNS-USING VARIATOR CONTROL

To shorten or lengthen the design as shown in the illustrations below, turn the Variator Control very slightly from the M position. To shorten the design, turn the control toward S, to lengthen the design turn control toward L.

Fig. 1 Shortened design

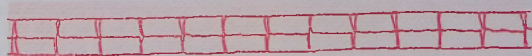


Fig. 2 M Setting - Standard size of design

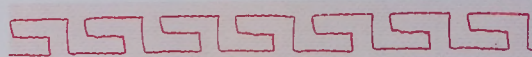
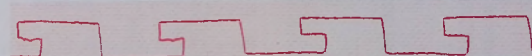


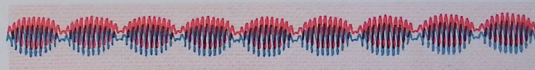
Fig. 3 Lengthened design



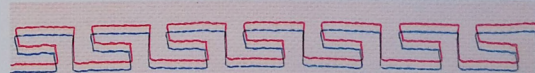
Basic and Reverse Patterns as made with the Double Needle.

Using the double needle and two colors of thread you may create unusual and different designs with both the basic design cams and the reverse stitch cams. See next page for directions for stitching with the double needle.

Basic type design

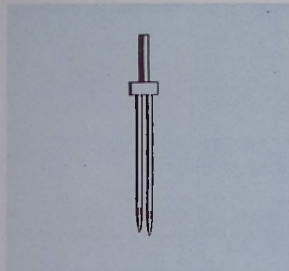


Reverse stitch type design



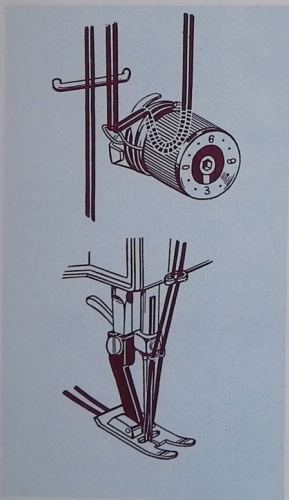
USING THE DOUBLE NEEDLE

All patterns can be made with the double needle with very striking effects. The machine is set exactly the same as when using the single needle with one important exception. The Stitch Width Control must never be set beyond 3. The double needle will be broken if a wider stitch is used.



PLACEMENT OF NEEDLE

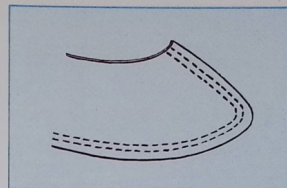
Raise the needle bar to its highest position and loosen the needle screw. Hold the double needle with the flat side away from you. Slip the needle into the needle bar as far as it will go. Tighten the screw.



THREADING THE DOUBLE NEEDLE

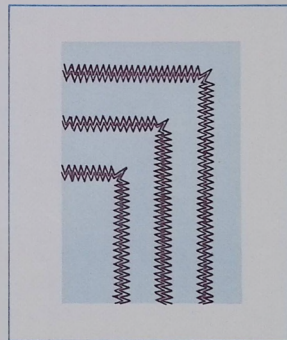
Place a spool of thread on each spool pin. Draw both threads through the upper thread tube. Pass a thread between each set of tension discs of the thread tension assembly. Continue threading as you do for single needle sewing except where double thread guides are provided. Draw one thread through each side of the double thread guides and through each needle from front to back. Turn hand wheel manually once to be sure needle will clear the presser foot. Pick up bobbin thread as for single needle sewing. Pull threads to back of foot and start to sew.

DOUBLE NEEDLE STITCHING



You may find that you would like to use the double needle for straight stitching as well as for designs. Make decorative top stitching around the collars and other edges with your machine set for straight stitching. Whenever you use the double needle even for straight stitching, be sure to use a zigzag presser foot and needle plate slot.

TURNING A CORNER WITH DOUBLE NEEDLE



To turn a square corner with a double needle, stop stitching with the longer needle tip just piercing the fabric. Raise the presser foot, shift fabric half the turn, lower presser foot and take one stitch.

Raise the presser foot again, complete the turn, and begin stitching in the new direction.

THINGS TO REMEMBER WHEN DESIGN STITCHING

1. Always make a practice design on a scrap of the fabric you plan to use.
2. Start with a full bobbin and plenty of thread on the spool to avoid running out of thread in the middle of your design.
3. Reduce the top thread tension slightly.
4. On a very soft fabric you may want to use a tissue paper backing or organdy that can be cut away.
5. Use the clear plastic satin stitch foot in order to see the design you are making.

Checking Performance Problems WHAT TO DO

PROBLEM	PROBABLE CAUSE	CORRECTION
Irregular Stitches	Incorrect size needle. Improper threading. Loose upper thread tension. Pulling fabric. Light pressure on presser foot. Loose presser foot. Unevenly wound bobbin.	Choose correct size needle for thread and fabric. Rethread machine. Tighten upper thread tension. Do not pull fabric; guide it gently. Increase pressure on presser foot. Reset presser foot. Rewind bobbin.
Breaking Needle	Pulling fabric. Incorrect size needle. Incorrect setting of needle. Loose presser foot.	Do not pull fabric; guide it gently. Choose correct size needle for thread and fabric. Reset needle. Reset presser foot.
Bunching of Thread	Upper and lower threads not drawn back under presser foot. Feed dog down.	Draw both threads back under presser foot. Raise feed dog.
Puckering	Incorrect thread tension(s). Light pressure on presser foot. Using two different sizes or kinds of thread. Bent or blunt needle. Loose presser foot. Fabric too sheer or too soft.	Reset thread tension(s). Increase pressure on presser foot. Upper thread and bobbin thread should be same size and kind. Insert new needle. Reset presser foot. Use underlay of tissue paper.

PROBLEM	PROBABLE CAUSE	CORRECTION
Skipping Stitches	Incorrect size needle. Incorrect type of needle and presser foot. Bent or blunt needle. Incorrect setting of needle. Tight upper thread tension. Light pressure on presser foot.	Choose correct size needle for thread and fabric. Use "Q NEEDLE™" and "Q FOOT™" Insert new needle. Reset needle. Loosen upper thread tension. Increase pressure on presser foot.
Breaking Upper Thread	Starting to stitch too fast. Improper threading. Tight upper thread tension. Incorrect size needle. Sharp eye in needle.	Start to stitch at a medium speed. Rethread machine. Loosen upper thread tension. Choose correct size needle for thread and fabric. Insert new needle.
Breaking Bobbin Thread	Improper bobbin case threading. Tight bobbin thread tension. Lint in bobbin case or shuttle.	Check bobbin case threading. Loosen bobbin thread tension. Clean bobbin case and shuttle.
Fabric not Moving	Feed dog down. Light pressure on presser foot. Thread knotted under fabric.	Raise feed dog. Increase pressure on presser foot. Place both threads back under presser foot before beginning to stitch.
Machine Jamming Knocking Noise	Thread caught in shuttle.	Disassemble and clean shuttle.

Hints on sewing on Different Fabrics

Fabric	Special Stitches to Use	Special Notions to Use
Nylon Tricot	Serging Stitch Overcast Stretch Elastic Stretch (for sewing on elastic) Feather stitch Blind Hem	"Q NEEDLE™" Polyester, nylon or dacron core thread "Q FOOT™"
Terry Cloth Regular Corduroy	Special Overcast Stitch (Use same settings as for Serging Stitch except Stitch Variegator should be set on Red dot)	Mercerized Thread Size 14 Needle
Terry Cloth Stretch	Serging Stitch Overcast Stretch	Mercerized Thread Size 14 Needle
Leather	Straight or simple zig zag	Mercerized or Silk Thread Size 14 Needle 1/2 Pressure on presser foot

Fabric	Special Stitches to Use	Special Notions to Use
Stretch knits for Swimwear and Ski Wear or Girdles	Serging Stretch Overcast Stretch Elast Stretch Mending Stitch Feather Stitch Scallop Stitch	Polyester, nylon or dacron core thread "Q NEEDLE™" "Q FOOT™" Lace Seam tape Pre-shrunk zippers

New fabrics are coming on the market all the time. Remember that soft fabrics may need to be stabilized a little. This is especially true when buttonholing, monogramming, or design sewing as the stitches are so close together. A backing of tissue paper or interfacing may assist you in your sewing. The paper may be torn away and the interfacing cut away after sewing. Check your fabric by making samples of the designs, monograms, or buttonholes on a scrap of fabric before sewing on your garment.

Caring for the Machine

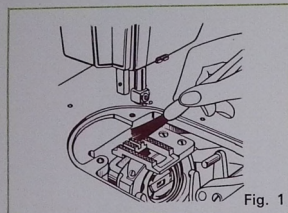
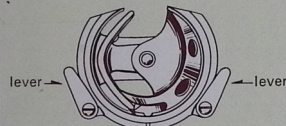
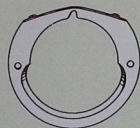


Fig. 1



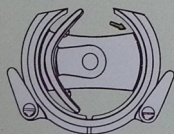
Shuttle Assembly



Shuttle Race Cover



Shuttle



Shuttle Race

Fig. 2

CLEANING AND OILING

Fig. 1 Cleaning the feed dogs with a brush.

To insure the best possible operation of your machine, it is necessary to keep the essential parts clean at all times. Using a small brush, remove the lint that accumulates in the shuttle area and around the feed dogs.

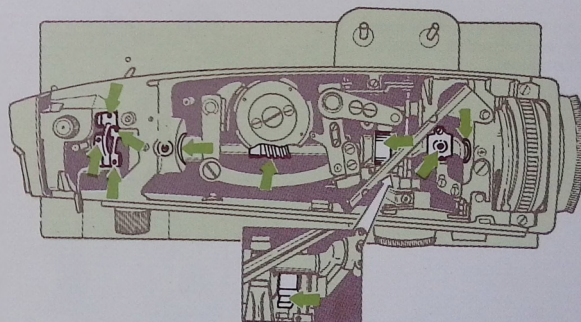
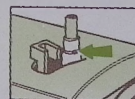
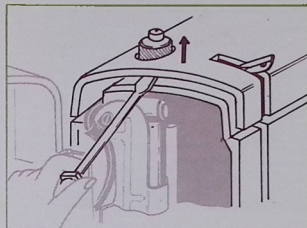
Fig. 2 Parts of the Shuttle Assembly

To Clean the Shuttle Area:

1. This area must be kept free of dust, lint and occasional tangled thread. Raise the needle bar to its highest point and remove the bobbin case.
2. Push levers of shuttle race aside and lift shuttle race cover and shuttle out.
3. Clean the shuttle race with small brush.
4. Put a drop of oil on the center pin of the shuttle and shuttle race. (see arrows)
5. To reassemble, hold shuttle by center pin and fit carefully into assembly opposite the shuttle driver. Slip shuttle race cover into place. Snap the levers into position.

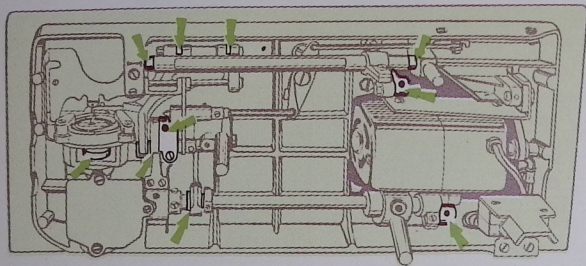
OILING UNDER ARM COVER PLATE

Remove arm cover plate to oil points indicated in top of machine head. To remove cover plate, insert a screw driver into the spacing between arm casting and top cover plate and lift the cover plate as illustrated below.



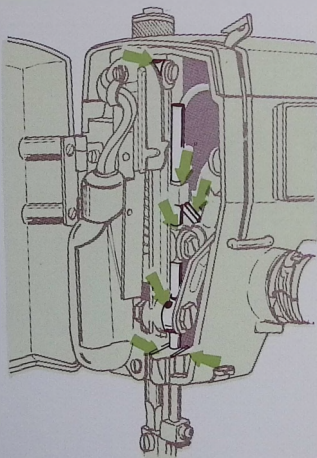
OILING UNDERSIDE

Tilt machine head back to oil points indicated on underside of machine.



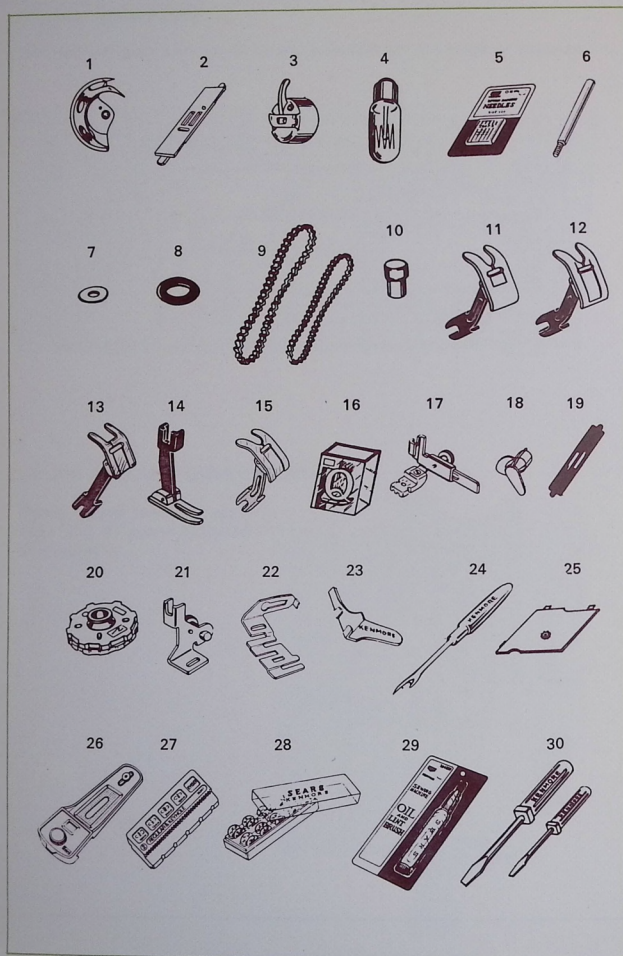
OILING IN FACE COVER PLATE

Swing hinged face cover plate open and oil points indicated in illustration.



M E M O

PARTS LIST



PARTS LIST

All parts listed here may be ordered through your nearest Sears or Simpsons - Sears retail store, catalog sales office or mail order house.

When ordering these parts, please be sure to mention the following references:

1. Model & serial numbers of machine shown on the nomenclature plate. See page 2.
2. Parts number(s) and description(s) here.

When ordering by mail, prices will be furnished on request, or parts will be shipped at prevailing prices and you will be billed accordingly.

REF. #	PART #	DESCRIPTIONS
1	28775	Shuttle
2	36202	Multi purpose needle plate
3	6510	Bobbin case
4	6797	Light bulb
5	*6740	#9 single needles
	*6741	#11 single needles
	*6742	#14 single needles
	*6743	#16 single needles
	*6744	#18 single needles
	*6745	Double needles
	*6746	"Q" NEEDLES
6	8286	Thread spool pin
7	2273	Nylon disc
8	1939	Bobbin winder rubber ring
9	28908	Large motor belt
	30083	Small motor belt
10	1222	Bobbin winder tension disc
11	35040	Standard zigzag foot
12	35089	Satin stitch foot
13	35091	Plastic satin stitch foot
14	35092	Straight stitch foot
15	6784	"Q" FOOT
16	6884	"Q" SET
17	6759	Zipper foot
18	28776	Chain stitch adapter
19	36203	Chain stitch needle plate
20	26844	Pattern disc #4
	26845	Pattern disc #5
	26847	Pattern disc #7
	26848	Pattern disc #8
	26849	Pattern disc #9
	26850	Pattern disc #10
	26851	Pattern disc #11
	26852	Pattern disc #12
	26858	Pattern disc #18
	26859	Pattern disc #19
	26862	Pattern disc #22
	26863	Pattern disc #23
	26864	Pattern disc #24
	26866	Pattern disc #25
	26867	Pattern disc #26
	26868	Pattern disc #27
	26869	Pattern disc #28

REF. #	PART #	DESCRIPTIONS
20	28772	Pattern disc #30
	28766	Pattern disc #36
	28769	Pattern disc #43
21	*29308	Adjustable holder
22	*29306	Edgestitcher
23	6864	Needle threader
24	6861	Buttonhole opener
25	36214	Buttonhole cover plate
26	35281	Buttonhole guide plate
27	35346	Buttonhole template (#1)
	35347	Buttonhole template (#2)
28	*6862	Bobbin box with 10 bobbins
29	*6889	Oil and lint brush
30	3015	Large screw driver
	3016	Small screw driver

*These items are not furnished with the machine, but may be ordered per instructions above.

M E M O

OUR GUARANTEE TO YOU

Beginning with the first day of use in your home, we will repair defects in material or workmanship, free of charge, in accordance with the following schedule:

Sewing Machine Head 30 years

Electrical Equipment
(consisting of motor,
wiring, switch and
speed control) 2 years

In addition, during the first ninety days, at no-charge, we will:

1. Provide mechanical service necessary for proper operation, except for normal customer maintenance.
2. Replace any belts, bobbin winder rubber rings, or light bulbs when returned to a Sears store.

When service is needed, simply contact our nearest store or service center throughout the United States or Canada.

**SEARS, ROEBUCK AND CO.
SIMPSON-SEARS LIMITED**

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Your Sears merchandise takes on added value when you discover that Sears has over 2,000 Service Units throughout the country. Each has fully equipped trucks and is staffed by Sears-trained, professional technicians using Sears approved parts and methods.

If and when you need service, please be sure to mention the number shown on your nomenclature plate. See page 2.

**SEARS, ROEBUCK AND CO.,
AND
SIMPSON'S-SEARS LIMITED**